

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/SE2005/000420	International filing date (day/month/year) 23-03-2005	Priority date (day/month/year) 23-03-2004
International Patent Classification (IPC) or national classification and IPC See Supplemental Box		
Applicant Olovson, Gudmar		

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 8 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
 - ☒ (sent to the applicant and to the International Bureau) a total of 2 sheets, as follows:
 - ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

- This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input checked="" type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input checked="" type="checkbox"/> | Box No. VIII | Certain observations on the international application |

Date of submission of the demand 19-10-2005	Date of completion of this report 15-06-2006
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer Anette Hall/EK Telephone No. +46 8 782 25 00

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2005/000420

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Cover sheet

International patent classification (IPC)

A61M 5/50 (2006.01)

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2005/000420

Box No. I Basis of the report

1. With regard to the
- language**
- , this report is based on:

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into _____ ,
which is the language of a translation furnished for the purposes of:
- ☐ international search (Rules 12.3(a) and 23.1(b))
- ☐ publication of the international application (Rule 12.4(a))
- ☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the
- elements**
- of the international application, this report is based on (
- replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*
-):

- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1 - 14 as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- pages _____ as originally filed/furnished
- pages* _____ as amended (together with any statement) under Article 19
- pages* 1 - 2 received by this Authority on 30-01-2006
- pages* _____ received by this Authority on _____
- ☒ the drawings:
- pages 1 as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

- 3.
- ☐
- The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

- 4.
- ☒
- This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☒ the claims, Nos. 1 - 2
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2005/000420

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-3</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-3</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-3</u>	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

This opinion is based on the set of amended claims filed on 30-01-2006.

Present claims 1-3 relate to a syringe of a non-reusable type.

Documents cited in the International Search Report:

D1: US 4883466 A

D2: US 6013056 A

D3: US 5000735 A

D4: SE 469263 B

D5: SE 469742 B

The document D5 is regarded as being the closest prior art to the subject-matter of claim 1. D5 discloses a syringe of a non-reusable type. Means (6) are provided for coupling and uncoupling a piston (4) and a rod (5) and adopt a coupled state when the piston is drawn by the rod from a position near the needle to one remote from the needle, and are brought to the uncoupled state when the piston is pressed by the rod towards the needle. The means comprise support and/or slide surfaces (5k',5k) on the rod and facing the needle, and working in conjunction with support and/or slide surfaces (4k',4k) on the piston. The piston first support and/or slide surfaces (4k') nearest the needle (3) are arranged to tilt so that with the rod (5) displacement movement towards the needle (3), a rotary movement around a container centre line is imparted to the piston (4).

The subject-matter of claim 1 therefore differs from this

.../...

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2005/000420

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

This opinion is based on the set of amended claims filed on 30-01-2006.

According to the requirements of Rule 11.13(m) PCT, the same feature shall be denoted by the same reference sign throughout the application. This requirement is not met in view of the use of (10a), (see claim 1, line 17, and claim 2, line 1). This requirement is not met in view of the use of (12) and (12') in claim 1.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2005/000420

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

This opinion is based on the set of amended claims filed on 30-01-2006.

Claim 1 is not as clear and concise as is called for in PCT Article 6. One of the reasons for this is that "said means (10)" in the characterizing portion has not been previously defined.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: BOX No. I, item 4

The amendments filed with the letter dated 23-03-2006 introduce subject-matter which extends beyond the content of the application as filed, contrary to Article 34(2)(b) PCT. The amendments concerned in claim 1 are the following:

- "Sliding surface" (13c,13d); (cf. "support surface" in the application as filed).
- "Outer part" (12'); (cf. "piston" in the application as filed).
- "Inner part" (10); (cf. "means" in the application as filed).
- "Central portion" (10a); (cf. "sub portion" in the application as filed).
- "Outer surface" (10b); (cf. "sliding surface" in the application as filed).

Claims 2 and 3 are dependent on claim 1 and are therefore also considered to be amended. Consequently, the amended claims 1-3 are not considered to be fully supported by the application as filed. Therefore, this report has been established as if the amendments had not been made; see PCT Rule 70.2 (c).

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: BOX V

known syringe in that the support and slide surfaces are given another design and also in that the piston possesses means such that it is rotatably connected to one of the coupling devices. The subject-matter of claim 1 is therefore novel (Article 33(2) PCT).

The problem to be solved by the present invention may therefore be regarded as to provide a syringe of a different design. The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons: the combination of the sliding surfaces and the rotatable part that connects the second coupling device with the piston makes it possible to offer sliding surfaces with less friction.

Claims 2 and 3 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

PCT/SE2005/000420

CLAIMS

1. A syringe (1) of non-reusable type comprising: a container (3), a rod (2) cooperating with said container, a piston unit (12) inserted in and reciprocally disposed in said container, and a needle (6), the rod (2) being, by the intermediary of an axial displacement movement, reciprocally disposed in said container (3) and displaying in its end portion, enclosed by the container, a first coupling device (13a) within a two-part coupling arrangement (13), whose second coupling device (13b) is related to said piston unit (12), and where said two coupling devices (13a, 13b) assume a mutually cooperation and an active position while the piston unit (12) is, by the movement of the rod (2), displaced from a position, closely adjacent said needle (11), to a position distal from said needle and gradually brings said coupling devices (13a, 13b) towards and into an inactive position, while the piston unit (12) is, by the movement of said rod (2), displaced from the position distal from the needle (11) towards and/or to the position closely adjacent said needle, the two coupling devices (13a, 13b) permitting, in an inactive position, an axial movement of the rod (2) to take place without cooperating with said piston unit (12), **characterised in that**, said second coupling device (13b) is provided with a piston unit (12' related means (10a), rotary coordinated with said piston within a piston unit (12', said unit (12') displays a sub portion (12a) adapted for a rotary cooperation with a recess (12a) in said piston unit (12'), said means (10) displays a supporting sliding surface (10b), facing towards a sliding surface provided on said piston unit (12') where in any event one of said sliding surface is of a planar configuration, said means (10) also displays a portion (11) facing inwardly into the container (3) with a sliding surface (11a) associated with the coupling device (13b) and given a configuration and a curvature associating to a cylindrical helix and/or to a conical helix, whereby said portion (11) of the means (10) facing inwardly into the container, displays a support surface (13c), oriented transversely of a centre line (1') related to said means (10), and that said support surface (13c) is cooperating with a further support surface (13d), each adapted with a covering area to form surfaces which have a total area less than a cross section of said container (3) and in said inactive position, said support surfaces (13c, 13d) are disposed laterally related and free from one another for a free passage of the support surface (13d) associated with the rod (2) to pass the support surface (13c) associated with the piston (12).

2. A syringe as claimed in Claim 1, **characterised in that**, said sub portion (12a) is given a spherical configuration.
3. A syringe as claimed in Claim 1, **characterised in that**, a support associated with said first coupling device (13a) is in the form of a catch, oriented transversely of a centre line (1') to said means.